GenCore version 5.1.4_p5_4578

OM protein - protein search, using sw model

Run on: March 17, 2003, 07:12:51 ; Search time 21.3206 Seconds
(without alignments)
118.747 Million cell updates/sec

Title: US-09-787-082-9
Perfect score: 119
Sequence: 1 CCSNPVCHLEHSNLCTNGG 19

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	119	100.0	19	21	AAY84658	Amino acid sequenc
2	113	95.0	19	21	AAY84657	Amino acid sequenc
3	96	80.7	16	16	AAR75279	A-lineage conotoxi
4	96	80.7	16	18	AAW24899	Predatory cone sna
5	96	80.7	16	18	AAW24886	Predatory cone sna
6	96	80.7	16	18	AAW12753	A-lineage conotoxi
7	96	80.7	16	18	AAW12741	A-lineage conotoxi
8	96	80.7	16	19	AAW57903	Conotoxin peptide
9	96	80.7	16	20	AAY24167	Alpha-conotoxin pe
10	96	80.7	16	20	AAY09520	Alpha conopeptide
11	96	80.7	17	20	AAY24156	Alpha-conotoxin pe
12	96	80.7	41	21	AAB21579	Cone snail alpha-c
13	96	80.7	63	21	AAB21426	Cone snail alpha-c
14	96	80.7	63	21	AAB21473	Cone snail alpha-c
15	94	79.0	63	21	AAB21448	Cone snail alpha-c
16	87	73.1	16	18	AAW09448	Alpha-conotoxin pe
17	86	72.3	41	21	AAB21594	Cone snail alpha-c
18	82	68.9	60	21	AAB21457	Cone snail alpha-c
19	81	68.1	16	21	AAB21491	Cone snail alpha-c
20	80	67.2	41	21	AAB21580	Cone snail alpha-c
21	79	66.4	16	21	AAB21390	Cone snail alpha-c
22	79	66.4	38	21	AAB21632	Cone snail alpha-c
23	78	65.5	41	21	AAB21578	Cone snail alpha-c
24	76	63.9	16	20	AAY24157	Alpha-conotoxin pe
25	72	60.5	16	21	AAB21507	Cone snail alpha-c
26	70	58.8	20	21	AAB21545	Cone snail alpha-c
27	69	58.0	16	20	AAY09521	Alpha conopeptide
28	67	56.3	20	21	AAB21413	Cone snail alpha-c
29	65	54.6	16	16	AAR75275	A-lineage conotoxi
30	65	54.6	16	18	AAW24882	Predatory cone sna
31	65	54.6	16	18	AAW12737	A-lineage conotoxi
32	65	54.6	18	21	AAB21436	Cone snail alpha-c
33	64	53.8	20	21	AAB21492	Cone snail alpha-c
34	63	52.9	40	21	AAB21591	Cone snail alpha-c
35	63	52.9	60	21	AAB21581	Cone snail alpha-c
36	62	52.1	20	21	AAB21490	Cone snail alpha-c
37	61	51.3	18	21	AAY87522	Mature conotoxin p
38	61	51.3	38	21	AAB21634	Cone snail alpha-c
39	61	51.3	39	21	AAB21630	Cone snail alpha-c
40	61	51.3	60	21	AAB21462	Cone snail alpha-c
41	61	51.3	61	21	AAB21431	Cone snail alpha-c
42	61	51.3	61	21	AAB21432	Cone snail alpha-c
43	61	51.3	61	21	AAB21433	Cone snail alpha-c
44	61	51.3	66	21	AAY87523	Conotoxin peptide
45	60	50.4	41	21	AAB21595	Cone snail alpha-c

ALIGNMENTS

RESULT 1
AAY84658
ID AAY84658 standard; peptide; 19 AA.
XX
AC AAY84658;
XX
DT 25-JUL-2000 (first entry)
XX
DE Amino acid sequence of a cyclised conotoxin peptide.
XX
KW Cyclised conotoxin; omega-conotoxin; neurological disorder; pain; stroke;
KW traumatic brain injury; migraine; epilepsy; Parkinson's disease;
KW Alzheimer's disease; multiple sclerosis; depression; alpha-conotoxin;
KW neuropsychiatric disorder; schizophrenia; Tourette's syndrome;
KW mu-conotoxin.
XX
OS Synthetic.
OS Conus sp.
XX
FH Key Location/Qualifiers
FT Misc-difference 1..19
FT /note= "peptide is cyclised via these residues"
FT Peptide 1..15
FT /note= "conotoxin"
FT Peptide 16..19
FT /note= "linker"
XX
PN WO200015654-A1.
XX
PD 23-MAR-2000.
XX
PF 14-SEP-1999; 99WO-AU00769.
XX

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PR   14-SEP-1998;   98AU-0005895.
XX
PA   (UYQU ) UNIV QUEENSLAND.
XX
PI   Craik DJ,  Daly NL,  Nielsen KJ;
XX
DR   WPI; 2000-271376/23.
XX
PT   Novel cyclized conotoxin peptides useful in the therapeutic treatment
PT   of diseases in humans  -
XX
PS   Claim 10; Page 31; 43pp; English.
XX
CC   AAY84654-58 represent cyclised conotoxin peptides of the ivnention. The
CC   cyclised peptides have improved properties, compared to their linear
CC   counterparts. These include resistance to cleavage by proteases, high
CC   chemical stability, improved biophysical properties, reduced side
CC   effects and improved bioavaliability. Cyclised omega-conotoxin peptides
CC   block N-type calcium channels, and so may be useful in the treatment of
CC   neurological disorders such as acute and chronic pain, stroke, traumatic
CC   brain injury, migraine, epilepsy, Parkinson's disease, Alzheimer's
CC   disease, multiple sclerosis, and depression. Alpha-conotoxins may be
CC   useful in the treatment of neuropsychiatric disorders such as
CC   schizophrenia, Parkinson's disease, Alzheimer's disease and Tourette's
CC   syndrome. Mu-conotoxins interact with neuronal channels and may be used
CC   to treat chronic and neuropathic pain. The cyclised conotoxin peptides
CC   can be also used as neuropharmacological probes. Antibodies raised
CC   against the peptides are useful as therapeutic or diagnostic agents,
CC   and can be used to screen for the peptides.
XX
SQ   Sequence   19 AA;

  Query Match             100.0%;  Score 119;  DB 21;  Length 19;
  Best Local Similarity   100.0%;  Pred. No. 6.5e-08;
  Matches   19;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLCTNGG 19
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Db      1 CCSNPVCHLEHSNLCTNGG 19


RESULT 2
AAY84657
ID   AAY84657 standard; peptide; 19 AA.
XX
AC   AAY84657;
XX
DT   25-JUL-2000  (first entry)
XX
DE   Amino acid sequence of a cyclised conotoxin peptide.
XX
KW   Cyclised conotoxin; omega-conotoxin; neurological disorder; pain; stroke;
KW   traumatic brain injury; migraine; epilepsy; Parkinson's disease;
KW   Alzheimer's disease; multiple sclerosis; depression; alpha-conotoxin;
KW   neuropsychiatric disorder; schizophrenia; Tourette's syndrome;
KW   mu-conotoxin.
XX
OS   Synthetic.
OS   Conus sp.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1..19
FT                   /note= "peptide is cyclised via these residues"
FT   Peptide         1..16
FT                   /note= "conotoxin"
FT   Peptide         17..19
FT                   /note= "linker"
XX
PN   WO200015654-A1.
XX
PD   23-MAR-2000.
XX
PF   14-SEP-1999;   99WO-AU00769.
XX
PR   14-SEP-1998;   98AU-0005895.
XX
PA   (UYQU ) UNIV QUEENSLAND.
XX
PI   Craik DJ,  Daly NL,  Nielsen KJ;
XX
DR   WPI; 2000-271376/23.
XX
PT   Novel cyclized conotoxin peptides useful in the therapeutic treatment
PT   of diseases in humans  -
XX
PS   Claim 10; Page 31; 43pp; English.
XX
CC   AAY84654-58 represent cyclised conotoxin peptides of the ivnention. The
CC   cyclised peptides have improved properties, compared to their linear
CC   counterparts. These include resistance to cleavage by proteases, high
CC   chemical stability, improved biophysical properties, reduced side
CC   effects and improved bioavaliability. Cyclised omega-conotoxin peptides
CC   block N-type calcium channels, and so may be useful in the treatment of
CC   neurological disorders such as acute and chronic pain, stroke, traumatic
CC   brain injury, migraine, epilepsy, Parkinson's disease, Alzheimer's
CC   disease, multiple sclerosis, and depression. Alpha-conotoxins may be
CC   useful in the treatment of neuropsychiatric disorders such as
CC   schizophrenia, Parkinson's disease, Alzheimer's disease and Tourette's
CC   syndrome. Mu-conotoxins interact with neuronal channels and may be used
CC   to treat chronic and neuropathic pain. The cyclised conotoxin peptides
CC   can be also used as neuropharmacological probes. Antibodies raised
CC   against the peptides are useful as therapeutic or diagnostic agents,
CC   and can be used to screen for the peptides.
XX
SQ   Sequence   19 AA;

  Query Match             95.0%;  Score 113;  DB 21;  Length 19;
  Best Local Similarity   100.0%;  Pred. No. 3.4e-07;
  Matches   18;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLCTNG 18
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Db      2 CCSNPVCHLEHSNLCTNG 19


RESULT 3
AAR75279
ID   AAR75279 standard; peptide; 16 AA.
XX
AC   AAR75279;
XX
DT   21-DEC-1995  (first entry)
XX
DE   A-lineage conotoxin MG-1 peptide.
XX
KW   Conotoxin; neuromuscular; synapse; signal transmission; inhibitor.
XX
OS   Conus magus.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 6
FT                   /label= Pro or OTHER
FT                   /note= "Hydroxyproline"
FT   Modified-site   16
FT                   /note= "preferably amidated"
XX
PN   WO9511256-A1.
XX
PD   27-APR-1995.
XX
PF   19-OCT-1994;   94WO-US11927.
XX
PR   19-OCT-1993;   93US-0137800.
XX
PA   (UTAH ) UNIV UTAH RES FOUND.
XX
```

PI Cruz LJ, Hillyard DR, Mcintosh JM, Olivera BM, Santos AD;
XX
DR WPI; 1995-170189/22.
XX
PT New A-lineage conotoxin peptide(s) - which inhibit synaptic
PT transmission at the neuromuscular junction or are active against
PT potassium or sodium channels
XX
PS Claim 1; Page 43; 66pp; English.
XX
CC The kappa-conotoxin, alpha conotoxin and alpha-like conotoxin
CC peptides all belong to a group of peptides known as the A-lineage
CC conotoxin peptides. The A-lineage conotoxin peptides have a wide
CC variety of pharmacological uses. The A-lineage conotoxin peptides
CC claimed (AAR75264-R75293) are useful for the inhibition of synaptic
CC transmission at neuromuscular junctions by blocking nicotinic acetyl
CC choline receptors and they also have activity against voltage-gated Na
CC and K channels.
XX
SQ Sequence 16 AA;

Query Match 80.7%; Score 96; DB 16; Length 16;
Best Local Similarity 100.0%; Pred. No. 3.3e-05;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CCSNPVCHLEHSNLC 15
||||||||||||||
Db 2 CCSNPVCHLEHSNLC 16

RESULT 4
AAW24899
ID AAW24899 standard; peptide; 16 AA.
XX
AC AAW24899;
XX
DT 15-OCT-1997 (first entry)
XX
DE Predatory cone snail venom alpha-conotoxin MII.
XX
KW Conotoxin; venom; predatory; cone snail; Conus; A-lineage; inhibitor;
KW synaptic transmission; neuromuscular junction; block; alpha-conotoxin;
KW nicotinic acetylcholine receptor; kappa-conotoxin; voltage-sensitive
KW potassium CHANNEL; sodium channel.
XX
OS Conus magus.
XX
FH Key Location/Qualifiers
FT Modified-site 16
FT /note= "amidated C-terminus"
XX
PN US5633347-A.
XX
PD 27-MAY-1997.
XX
PF 29-JUN-1993; 93US-0084848.
XX
PR 07-JUN-1995; 95US-0480750.
PR 29-JUN-1993; 93US-0084848.
PR 19-OCT-1993; 93US-0137800.
XX
PA (UTAH) UNIV UTAH RES FOUND.
XX
PI Cruz LJ, Hillyard DR, McIntosh JM, Olivera BM, Santos AO;
XX
DR WPI; 1997-309336/28.
XX
PT New kappa-conotoxin peptide(s) - present in venom of fish-hunting
PT cone snail
XX
PS Disclosure; Column 6; 37pp; English.
XX
CC The peptides AAW24878-W24900 represent novel toxin peptides isolated
CC from the venom of various predatory cone snails of the genus Conus. The
CC peptides are A-lineage conotoxin peptides which fall into 3 groups
CC dependent on their amino acid sequences: (i) alpha-3/5 have a core
CC sequence CCXXXCXXXXXC where X is any amino acid; (ii) alpha-4/7 have a
CC core sequence CCXXXXCXXXXXXC; and (iii) kappa-7/2/1/3 have the core
CC sequence CCXXXXXXXCXXCXCXXXC. The peptide presented here was isolated
CC from Conus magus and falls into the alpha-4/7 category.
CC Alpha-conotoxin peptides are potent inhibitors of synaptic transmission
CC at the neuromuscular junction by blocking nicotinic acetylcholine
CC receptors, whereas kappa-conotoxins have activities against
CC voltage-sensitive potassium or sodium channels.
XX
SQ Sequence 16 AA;

Query Match 80.7%; Score 96; DB 18; Length 16;
Best Local Similarity 100.0%; Pred. No. 3.3e-05;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CCSNPVCHLEHSNLC 15
||||||||||||||
Db 2 CCSNPVCHLEHSNLC 16

RESULT 5
AAW24886
ID AAW24886 standard; peptide; 16 AA.
XX
AC AAW24886;
XX
DT 15-OCT-1997 (first entry)
XX
DE Predatory cone snail venom alpha-conotoxin MG-1.
XX
KW Conotoxin; venom; predatory; cone snail; Conus; A-lineage; inhibitor;
KW synaptic transmission; neuromuscular junction; block; alpha-conotoxin;
KW nicotinic acetylcholine receptor; kappa-conotoxin; voltage-sensitive
KW potassium CHANNEL; sodium channel.
XX
OS Conus magus.
XX
FH Key Location/Qualifiers
FT Modified-site 16
FT /note= "optionally 4Hyp"
XX
PN US5633347-A.
XX
PD 27-MAY-1997.
XX
PF 29-JUN-1993; 93US-0084848.
XX
PR 07-JUN-1995; 95US-0480750.
PR 29-JUN-1993; 93US-0084848.
PR 19-OCT-1993; 93US-0137800.
XX
PA (UTAH) UNIV UTAH RES FOUND.
XX
PI Cruz LJ, Hillyard DR, McIntosh JM, Olivera BM, Santos AO;
XX
DR WPI; 1997-309336/28.
XX
PT New kappa-conotoxin peptide(s) - present in venom of fish-hunting
PT cone snail
XX
PS Disclosure; Column 5; 37pp; English.
XX
CC The peptides AAW24878-W24900 represent novel toxin peptides isolated
CC from the venom of various predatory cone snails of the genus Conus. The
CC peptides are A-lineage conotoxin peptides which fall into 3 groups
CC dependent on their amino acid sequences: (i) alpha-3/5 have a core
CC sequence CCXXXCXXXXXC where X is any amino acid; (ii) alpha-4/7 have a
CC core sequence CCXXXXCXXXXXXC; and (iii) kappa-7/2/1/3 have the core
CC sequence CCXXXXXXXCXXCXCXXXC. The peptide presented here was isolated
CC from Conus magus and falls into the alpha-4/7 category.

```
CC   Alpha-conotoxin peptides are potent inhibitors of synaptic transmission
CC   at the neuromuscular junction by blocking nicotinic acetylcholine
CC   receptors, whereas kappa-conotoxins have activities against
CC   voltage-sensitive potassium or sodium channels.
XX
SQ   Sequence   16 AA;

  Query Match             80.7%;  Score 96;  DB 18;  Length 16;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-05;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLC 15
          |||||||||||||||
Db      2 CCSNPVCHLEHSNLC 16


RESULT 6
AAW12753
ID   AAW12753 standard; Peptide; 16 AA.
XX
AC   AAW12753;
XX
DT   16-APR-1997  (first entry)
XX
DE   A-lineage conotoxin peptide MII.
XX
KW   Polymerase chain reaction; PCR; primer; amplify; conotoxin; Conus;
KW   inhibitor; synaptic transmission; neuromuscular junction; sodium channel;
KW   nicotinic acetylcholine receptor; potassium channel; muscle relaxant;
KW   myasthenia gravis; small cell lung cancer; therapy.
XX
OS   Conus magus.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   16
FT                   /note= "amidated"
XX
PN   US5589340-A.
XX
PD   31-DEC-1996.
XX
PF   29-JUN-1993;   93US-0084848.
XX
PR   07-JUN-1995;   95US-0477383.
PR   29-JUN-1993;   93US-0084848.
PR   19-OCT-1993;   93US-0137800.
XX
PA   (UTAH ) UNIV UTAH RES FOUND.
XX
PI   Cruz LJ,  Hillyard DR,  Mcintosh JM,  Olivera BM,  Santos AD;
XX
DR   WPI; 1997-076840/07.
XX
PT   Identifying nucleic acid encoding A-lineage conotoxin peptide(s) by
PT   amplification - uses primers corresponding to conserved regions in
PT   the signal sequence and 3'-un:translated regions, useful e.g. in
PT   treatment of small cell lung cancer
XX
PS   Disclosure; Column 6; 36pp; English.
XX
CC   AAW12726-W12769 represent conotoxin peptides.  This sequence represents
CC   the A-lineage conotoxin MII peptide isolated from Conus magus.  These
CC   sequences are identified using the method of the invention.  The method
CC   of the invention is for identifying DNA encoding A-lineage conotoxin
CC   peptides by subjecting Conus nucleic acid to amplification with primer
CC   sequences (see AAT59714 and AAT59715).  The primers are specific for the
CC   signal sequence and 3'-untranslated (3'UTR) regions of the conotoxin
CC   gene, which are highly homologous between conotoxins, and are therefore
CC   suitable sites for detection.  A-lineage conotoxins include alpha-
CC   conotoxins, and kappa-conotoxins.  Alpha-conotoxins are powerful
CC   inhibitors of synaptic transmission at the neuromuscular junction, and
CC   are usually nicotinic acetylcholine receptor blockers.  Kappa-conotoxins
CC   act on the voltage sensitive sodium and potassium channels.  The
CC   conotoxins identified can be used as muscle relaxants, in the diagnosis
CC   of myasthenia gravis, and for the treatment or diagnosis of small cell
CC   lung cancer.  For the treatment of small cell lung cancer, the conotoxin
CC   peptides act by binding to the nicotinic receptors, and thereby blocking
CC   the nicotine/cytosine stimulated release of the mitogen
CC   5-hydroxytryptamine.
XX
SQ   Sequence   16 AA;

  Query Match             80.7%;  Score 96;  DB 18;  Length 16;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-05;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLC 15
          |||||||||||||||
Db      2 CCSNPVCHLEHSNLC 16


RESULT 7
AAW12741
ID   AAW12741 standard; Peptide; 16 AA.
XX
AC   AAW12741;
XX
DT   16-APR-1997  (first entry)
XX
DE   A-lineage conotoxin peptide MG-1.
XX
KW   Polymerase chain reaction; PCR; primer; amplify; conotoxin; Conus;
KW   inhibitor; synaptic transmission; neuromuscular junction; sodium channel;
KW   nicotinic acetylcholine receptor; potassium channel; muscle relaxant;
KW   myasthenia gravis; small cell lung cancer; therapy.
XX
OS   Conus magus.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   6
FT                   /note= "optionally hydroxylated"
FT   Modified-site   16
FT                   /note= "amidated"
XX
PN   US5589340-A.
XX
PD   31-DEC-1996.
XX
PF   29-JUN-1993;   93US-0084848.
XX
PR   07-JUN-1995;   95US-0477383.
PR   29-JUN-1993;   93US-0084848.
PR   19-OCT-1993;   93US-0137800.
XX
PA   (UTAH ) UNIV UTAH RES FOUND.
XX
PI   Cruz LJ,  Hillyard DR,  Mcintosh JM,  Olivera BM,  Santos AD;
XX
DR   WPI; 1997-076840/07.
XX
PT   Identifying nucleic acid encoding A-lineage conotoxin peptide(s) by
PT   amplification - uses primers corresponding to conserved regions in
PT   the signal sequence and 3'-un:translated regions, useful e.g. in
PT   treatment of small cell lung cancer
XX
PS   Disclosure; Column 5; 36pp; English.
XX
CC   AAW12726-W12769 represent conotoxin peptides.  This sequence represents
CC   the A-lineage conotoxin MG-1 peptide isolated from Conus magus.  These
CC   sequences are identified using the method of the invention.  The method
CC   of the invention is for identifying DNA encoding A-lineage conotoxin
CC   peptides by subjecting Conus nucleic acid to amplification with primer
CC   sequences (see AAT59714 and AAT59715).  The primers are specific for the
CC   signal sequence and 3'-untranslated (3'UTR) regions of the conotoxin
CC   gene, which are highly homologous between conotoxins, and are therefore
CC   suitable sites for detection.  A-lineage conotoxins include alpha-
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```
CC   conotoxins, and kappa-conotoxins.  Alpha-conotoxins are powerful
CC   inhibitors of synaptic transmission at the neuromuscular junction, and
CC   are usually nicotinic acetylcholine receptor blockers.  Kappa-conotoxins
CC   act on the voltage sensitive sodium and potassium channels.  The
CC   conotoxins identified can be used as muscle relaxants, in the diagnosis
CC   of myasthenia gravis, and for the treatment or diagnosis of small cell
CC   lung cancer.  For the treatment of small cell lung cancer, the conotoxin
CC   peptides act by binding to the nicotinic receptors, and thereby blocking
CC   the nicotine/cytosine stimulated release of the mitogen
CC   5-hydroxytryptamine.
XX
SQ   Sequence   16 AA;

  Query Match             80.7%;  Score 96;  DB 18;  Length 16;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-05;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLC 15
          |||||||||||||||
Db      2 CCSNPVCHLEHSNLC 16


RESULT 8
AAW57903
ID   AAW57903 standard; peptide; 16 AA.
XX
AC   AAW57903;
XX
DT   25-SEP-1998  (first entry)
XX
DE   Conotoxin peptide MII.
XX
KW   Conotoxin peptide; ImI; MII; cardiovascular agent; altered heart rate;
KW   altered blood pressure; nicotinic acetylcholine receptor antagonist;
KW   B neurone blocker; venom; marine snail; C neurone blocker;
KW   sympathetic impulse.
XX
OS   Conus imperialis.
XX
FH   Key             Location/Qualifiers
FT   Disulfide-bond  2..8
FT   Disulfide-bond  3..16
XX
PN   WO9822126-A1.
XX
PD   28-MAY-1998.
XX
PF   17-NOV-1997;   97WO-US20669.
XX
PR   18-NOV-1996;   96US-0031141.
XX
PA   (UTAH ) UNIV UTAH RES FOUND.
XX
PI   McIntosh JM,  Olivera BM,  Yoshikami D;
XX
DR   WPI; 1998-322346/28.
XX
PT   Use of the conotoxin peptide(s) ImI and MII - as agents which can
PT   regulate heart rate or blood pressure
XX
PS   Claim 1; Page 4; 24pp; English.
XX
CC   This sequence represents the conotoxin peptide ImI. This sequence and
CC   the MII conotoxin peptide (see AAW57903) can be used in the method of
CC   the invention for the treatment of a patient who has an altered heart
CC   rate or an altered blood pressure. The peptides are found in the venom of
CC   marine snails of the genus Conus. They are active as nicotinic
CC   acetylcholine receptor antagonists. They differentially block the B and C
CC   neurones, and are thus able to differentially block sympathetic impulses
CC   to the heart affecting the heart rate and blood pressure. The above
CC   agents are capable of discretely affecting the heart rate or blood
CC   pressure, without affecting other muscles.
XX
SQ   Sequence   16 AA;

  Query Match             80.7%;  Score 96;  DB 19;  Length 16;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-05;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLC 15
          |||||||||||||||
Db      2 CCSNPVCHLEHSNLC 16


RESULT 9
AAY24167
ID   AAY24167 standard; peptide; 16 AA.
XX
AC   AAY24167;
XX
DT   10-SEP-1999  (first entry)
XX
DE   Alpha-conotoxin peptide SEQ ID NO:2.
XX
KW   Alpha-conotoxin; neuronal nicotinic acetylcholine receptor; nAChR;
KW   small cell lung carcinoma; cardiovascular disorder; nicotine addiction;
KW   gastric motility disorder; urinary incontinence; mood disorder;
KW   bipolar disorder; unipolar depression; dysthymia;
KW   seasonal effective disorder.
XX
OS   Conus magus.
XX
PN   WO9933482-A1.
XX
PD   08-JUL-1999.
XX
PF   23-DEC-1998;   98WO-US27367.
XX
PR   03-APR-1998;   98US-0080588.
PR   31-DEC-1997;   97US-0070153.
XX
PA   (UTAH ) UNIV UTAH RES FOUND.
XX
PI   Cartier GE,  Luo S,  McIntosh JM,  Olivera BM,  Yoshikami D;
XX
DR   WPI; 1999-405367/34.
XX
PT   Alpha-conotoxin peptides that are used to treat disorders regulated
PT   at neuronal nicotinic acetylcholine receptors
XX
PS   Disclosure; Page 6; 40pp; English.
XX
CC   The present sequence represents an example of an alpha-conotoxin
CC   peptide, which can be used to treat disorders regulated at neuronal
CC   nicotinic acetylcholine receptors (nAChR). The alpha-conotoxins
CC   are useful for preparing a pharmaceutical composition for treating
CC   disorders regulated at neuronal nAChR, especially alpha 3 beta 2,
CC   alpha 3 beta 4 or alpha 7-containing nAChR. Disorders that can be
CC   treated include cardiovascular disorders, a gastric motility disorder,
CC   urinary incontinence, nicotine addiction, a mood disorder or small cell
CC   lung carcinoma. Mood disorders include bipolar disorder, unipolar
CC   depression, dysthymia and seasonal effective disorder. The alpha-
CC   conotoxins can also be used for diagnosis of small cell lung carcinoma.
CC   The alpha-conotoxin antagonists are able to discriminate between non-
CC   symmetrical ligand binding interfaces present on the nAChR. The alpha-
CC   conotoxin has the ability to potently block any receptor containing a
CC   alpha beta subunit interface, regardless of what other subunits may be
CC   present in the receptor complex.
XX
SQ   Sequence   16 AA;

  Query Match             80.7%;  Score 96;  DB 20;  Length 16;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-05;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLC 15
```

```
          ||||||||||||||||
Db      2 CCSNPVCHLEHSNLC 16


RESULT 10
AAY09520
ID   AAY09520 standard; peptide; 16 AA.
XX
AC   AAY09520;
XX
DT   20-JUL-1999  (first entry)
XX
DE   Alpha conopeptide MII SEQ ID NO:1.
XX
KW   Alpha conopeptide MII; alpha-4/7 conotoxin; cardiovascular agent;
KW   neuronal nicotinic acetylcholine receptor; small cell lung carcinoma;
KW   detection; gastric motility; urinary incontinence; anti-smoking agent.
XX
OS   Conus magus.
XX
FH   Key             Location/Qualifiers
FT   Disulfide-bond  2..8
FT   Disulfide-bond  3..16
XX
PN   WO9921878-A1.
XX
PD   06-MAY-1999.
XX
PF   23-OCT-1998;   98WO-US22368.
XX
PR   14-NOV-1997;   97US-0065814.
PR   24-OCT-1997;   97US-0062783.
XX
PA   (COGN-) COGNETIX INC.
PA   (SALK ) SALK INST.
PA   (UYCA-) UNIV CASE WESTERN RESERVE.
PA   (UTAH ) UNIV UTAH RES FOUND.
XX
PI   Cartier GE,  Koerber SC,  McIntosh JM,  Olivera BM;
PI   Rivier JE,  Shen GS,  Shonk,  Yoshikami D;
XX
DR   WPI; 1999-326687/27.
XX
PT   Derivatives of alpha-conotoxin and their analogues
XX
PS   Example 11; Page 51; 176pp; English.
XX
CC   The present invention describes derivatives (I) of alpha-conotoxin MII
CC   (II), an alpha-4/7 conotoxin peptide, with practically the same activity
CC   as (II). (I), and its mimetics, are useful as cardiovascular agents;
CC   for treating or diagnosing small-cell lung carcinoma; and as gastric
CC   motility, urinary incontinence and anti-smoking agents. (I) and their
CC   mimetics can be designed to be selective for particular subtypes of
CC   neuronal nicotinic acetylcholine receptor, particularly the alpha 3 beta
CC   2 and alpha 3 beta 4 subtypes. The present sequence represents the
CC   alpha-conopeptide MII, which is used in an example from the present
CC   invention.
XX
SQ   Sequence   16 AA;

  Query Match             80.7%;  Score 96;  DB 20;  Length 16;
  Best Local Similarity   100.0%;  Pred. No. 3.3e-05;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLC 15
          ||||||||||||||||
Db      2 CCSNPVCHLEHSNLC 16


RESULT 11
AAY24156
ID   AAY24156 standard; peptide; 17 AA.
XX
AC   AAY24156;
XX
DT   10-SEP-1999  (first entry)
XX
DE   Alpha-conotoxin peptide SEQ ID NO:3.
XX
KW   Alpha-conotoxin; neuronal nicotinic acetylcholine receptor; nAChR;
KW   small cell lung carcinoma; cardiovascular disorder; nicotine addiction;
KW   gastric motility disorder; urinary incontinence; mood disorder;
KW   bipolar disorder; unipolar depression; dysthymia;
KW   seasonal effective disorder.
XX
OS   Conus magus.
OS   Synthetic.
XX
PN   WO9933482-A1.
XX
PD   08-JUL-1999.
XX
PF   23-DEC-1998;   98WO-US27367.
XX
PR   03-APR-1998;   98US-0080588.
PR   31-DEC-1997;   97US-0070153.
XX
PA   (UTAH ) UNIV UTAH RES FOUND.
XX
PI   Cartier GE,  Luo S,  McIntosh JM,  Olivera BM,  Yoshikami D;
XX
DR   WPI; 1999-405367/34.
XX
PT   Alpha-conotoxin peptides that are used to treat disorders regulated
PT   at neuronal nicotinic acetylcholine receptors
XX
PS   Claim 12; Page 27; 40pp; English.
XX
CC   The present sequence represents a specifically claimed example of an
CC   alpha-conotoxin from the general formula given in AAY24155, which can be
CC   used to treat disorders regulated at neuronal nicotinic acetylcholine
CC   receptors (nAChR). The alpha-conotoxins are useful for preparing a
CC   pharmaceutical composition for treating disorders regulated at neuronal
CC   nAChR, especially alpha 3 beta 2, alpha 3 beta 4 or alpha 7-containing
CC   nAChR. Disorders that can be treated include cardiovascular disorders, a
CC   gastric motility disorder, urinary incontinence, nicotine addiction, a
CC   mood disorder or small cell lung carcinoma. Mood disorders include
CC   bipolar disorder, unipolar depression, dysthymia and seasonal effective
CC   disorder. The alpha-conotoxins can also be used for diagnosis of small
CC   cell lung carcinoma. The alpha-conotoxin antagonists are able to
CC   discriminate between non-symmetrical ligand binding interfaces present
CC   on the nAChR. The alpha-conotoxin has the ability to potently block any
CC   receptor containing a alpha beta subunit interface, regardless of what
CC   other subunits may be present in the receptor complex.
XX
SQ   Sequence   17 AA;

  Query Match             80.7%;  Score 96;  DB 20;  Length 17;
  Best Local Similarity   100.0%;  Pred. No. 3.5e-05;
  Matches   15;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 CCSNPVCHLEHSNLC 15
          ||||||||||||||||
Db      3 CCSNPVCHLEHSNLC 17


RESULT 12
AAB21579
ID   AAB21579 standard; Peptide; 41 AA.
XX
AC   AAB21579;
XX
DT   19-JAN-2001  (first entry)
XX
DE   Cone snail alpha-conotoxin SEQ ID NO: 286.
XX
```

KW Cone snail; alpha-conotoxin; venom; disulphide bond; mood disorder;
KW neuronal nicotinic acetylcholine receptor; cardiovascular disorder;
KW gastric motility disorder; urinary incontinence; nicotine addiction;
KW small cell lung carcinoma.
XX
OS Conus achatinus.
XX
PN WO200044776-A1.
XX
PD 03-AUG-2000.
XX
PF 28-JAN-2000; 2000WO-US01979.
XX
PR 29-JAN-1999; 99US-0118381.
XX
PA (UTAH) UNIV UTAH RES FOUND.
PA (COGN-) COGNETIX INC.
XX
PI Watkins M, Olivera BM, Hillyard DR, McIntosh JM, Jones RM;
XX
DR WPI; 2000-505965/45.
DR N-PSDB; AAA89475.
XX
PT alpha-conotoxin polypeptides derived from the venom of cone snails
PT useful e.g. as neuromuscular blocking agents for use in surgery and for
PT treating unipolar depression -
XX
PS Claim 39; Page 52; 229pp; English.
XX
CC The present invention relates to a number of alpha-conotoxin peptides and
CC their coding sequences from a number of different species of cone snail.
CC These peptides are found in minute quantities in the venom of the snails,
CC and are targeted at the neuronal nicotinic acetylcholine receptors of the
CC nervous system. They usually contain two disulphide bonds, which give
CC them defined conformations, a rarity in molecules this small. The
CC alpha-conotoxins can be used as neuromuscular blocking agents in surgery,
CC and for treating disorders regulated at the neuronal nicotinic
CC acetylcholine receptors, including cardiovascular disorders, gastric
CC motility disorders, urinary incontinence, nicotine addiction, mood
CC disorders such as bipolar disorder, unipolar depression, dysthymia and
CC seasonal affective disorder, and small cell lung carcinoma.
XX
SQ Sequence 41 AA;

Query Match 80.7%; Score 96; DB 21; Length 41;
Best Local Similarity 100.0%; Pred. No. 7.6e-05;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CCSNPVCHLEHSNLC 15
||||||||||||||||
Db 23 CCSNPVCHLEHSNLC 37

RESULT 13
AAB21426
ID AAB21426 standard; Protein; 63 AA.
XX
AC AAB21426;
XX
DT 19-JAN-2001 (first entry)
XX
DE Cone snail alpha-conotoxin SEQ ID NO: 59.
XX
KW Cone snail; alpha-conotoxin; venom; disulphide bond; mood disorder;
KW neuronal nicotinic acetylcholine receptor; cardiovascular disorder;
KW gastric motility disorder; urinary incontinence; nicotine addiction;
KW small cell lung carcinoma.
XX
OS Conus magus.
XX
PN WO200044776-A1.
XX
PD 03-AUG-2000.
XX
PF 28-JAN-2000; 2000WO-US01979.
XX
PR 29-JAN-1999; 99US-0118381.
XX
PA (UTAH) UNIV UTAH RES FOUND.
PA (COGN-) COGNETIX INC.
XX
PI Watkins M, Olivera BM, Hillyard DR, McIntosh JM, Jones RM;
XX
DR WPI; 2000-505965/45.
DR N-PSDB; AAA89401.
XX
PT alpha-conotoxin polypeptides derived from the venom of cone snails
PT useful e.g. as neuromuscular blocking agents for use in surgery and for
PT treating unipolar depression -
XX
PS Claim 39; Page 31; 229pp; English.
XX
CC The present invention relates to a number of alpha-conotoxin peptides and
CC their coding sequences from a number of different species of cone snail.
CC These peptides are found in minute quantities in the venom of the snails,
CC and are targeted at the neuronal nicotinic acetylcholine receptors of the
CC nervous system. They usually contain two disulphide bonds, which give
CC them defined conformations, a rarity in molecules this small. The
CC alpha-conotoxins can be used as neuromuscular blocking agents in surgery,
CC and for treating disorders regulated at the neuronal nicotinic
CC acetylcholine receptors, including cardiovascular disorders, gastric
CC motility disorders, urinary incontinence, nicotine addiction, mood
CC disorders such as bipolar disorder, unipolar depression, dysthymia and
CC seasonal affective disorder, and small cell lung carcinoma.
XX
SQ Sequence 63 AA;

Query Match 80.7%; Score 96; DB 21; Length 63;
Best Local Similarity 100.0%; Pred. No. 0.00011;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CCSNPVCHLEHSNLC 15
||||||||||||||||
Db 45 CCSNPVCHLEHSNLC 59

RESULT 14
AAB21473
ID AAB21473 standard; Protein; 63 AA.
XX
AC AAB21473;
XX
DT 19-JAN-2001 (first entry)
XX
DE Cone snail alpha-conotoxin SEQ ID NO: 153.
XX
KW Cone snail; alpha-conotoxin; venom; disulphide bond; mood disorder;
KW neuronal nicotinic acetylcholine receptor; cardiovascular disorder;
KW gastric motility disorder; urinary incontinence; nicotine addiction;
KW small cell lung carcinoma.
XX
OS Conus consors.
XX
PN WO200044776-A1.
XX
PD 03-AUG-2000.
XX
PF 28-JAN-2000; 2000WO-US01979.
XX
PR 29-JAN-1999; 99US-0118381.
XX
PA (UTAH) UNIV UTAH RES FOUND.
PA (COGN-) COGNETIX INC.
XX
PI Watkins M, Olivera BM, Hillyard DR, McIntosh JM, Jones RM;
XX

DR WPI; 2000-505965/45.
DR N-PSDB; AAA89448.
XX
PT alpha-conotoxin polypeptides derived from the venom of cone snails
PT useful e.g. as neuromuscular blocking agents for use in surgery and for
PT treating unipolar depression -
XX
PS Claim 39; Page 45; 229pp; English.
XX
CC The present invention relates to a number of alpha-conotoxin peptides and
CC their coding sequences from a number of different species of cone snail.
CC These peptides are found in minute quantities in the venom of the snails,
CC and are targeted at the neuronal nicotinic acetylcholine receptors of the
CC nervous system. They usually contain two disulphide bonds, which give
CC them defined conformations, a rarity in molecules this small. The
CC alpha-conotoxins can be used as neuromuscular blocking agents in surgery,
CC and for treating disorders regulated at the neuronal nicotinic
CC acetylcholine receptors, including cardiovascular disorders, gastric
CC motility disorders, urinary incontinence, nicotine addiction, mood
CC disorders such as bipolar disorder, unipolar depression, dysthymia and
CC seasonal affective disorder, and small cell lung carcinoma.
XX
SQ Sequence 63 AA;

Query Match 80.7%; Score 96; DB 21; Length 63;
Best Local Similarity 100.0%; Pred. No. 0.00011;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CCSNPVCHLEHSNLC 15
||||||||||||||||
Db 45 CCSNPVCHLEHSNLC 59

RESULT 15
AAB21448
ID AAB21448 standard; Protein; 63 AA.
XX
AC AAB21448;
XX
DT 19-JAN-2001 (first entry)
XX
DE Cone snail alpha-conotoxin SEQ ID NO: 103.
XX
KW Cone snail; alpha-conotoxin; venom; disulphide bond; mood disorder;
KW neuronal nicotinic acetylcholine receptor; cardiovascular disorder;
KW gastric motility disorder; urinary incontinence; nicotine addiction;
KW small cell lung carcinoma.
XX
OS Conus stercusmuscarum.
XX
PN WO200044776-A1.
XX
PD 03-AUG-2000.
XX
PF 28-JAN-2000; 2000WO-US01979.
XX
PR 29-JAN-1999; 99US-0118381.
XX
PA (UTAH) UNIV UTAH RES FOUND.
PA (COGN-) COGNETIX INC.
XX
PI Watkins M, Olivera BM, Hillyard DR, McIntosh JM, Jones RM;
XX
DR WPI; 2000-505965/45.
DR N-PSDB; AAA89423.
XX
PT alpha-conotoxin polypeptides derived from the venom of cone snails
PT useful e.g. as neuromuscular blocking agents for use in surgery and for
PT treating unipolar depression -
XX
PS Claim 39; Page 38; 229pp; English.
XX
CC The present invention relates to a number of alpha-conotoxin peptides and
CC their coding sequences from a number of different species of cone snail.
CC These peptides are found in minute quantities in the venom of the snails,
CC and are targeted at the neuronal nicotinic acetylcholine receptors of the
CC nervous system. They usually contain two disulphide bonds, which give
CC them defined conformations, a rarity in molecules this small. The
CC alpha-conotoxins can be used as neuromuscular blocking agents in surgery,
CC and for treating disorders regulated at the neuronal nicotinic
CC acetylcholine receptors, including cardiovascular disorders, gastric
CC motility disorders, urinary incontinence, nicotine addiction, mood
CC disorders such as bipolar disorder, unipolar depression, dysthymia and
CC seasonal affective disorder, and small cell lung carcinoma.
XX
SQ Sequence 63 AA;

Query Match 79.0%; Score 94; DB 21; Length 63;
Best Local Similarity 93.3%; Pred. No. 0.0002;
Matches 14; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CCSNPVCHLEHSNLC 15
||||||||||||||:|
Db 45 CCSNPVCHLEHSNMC 59

Search completed: March 17, 2003, 07:23:42
Job time : 22.3206 secs